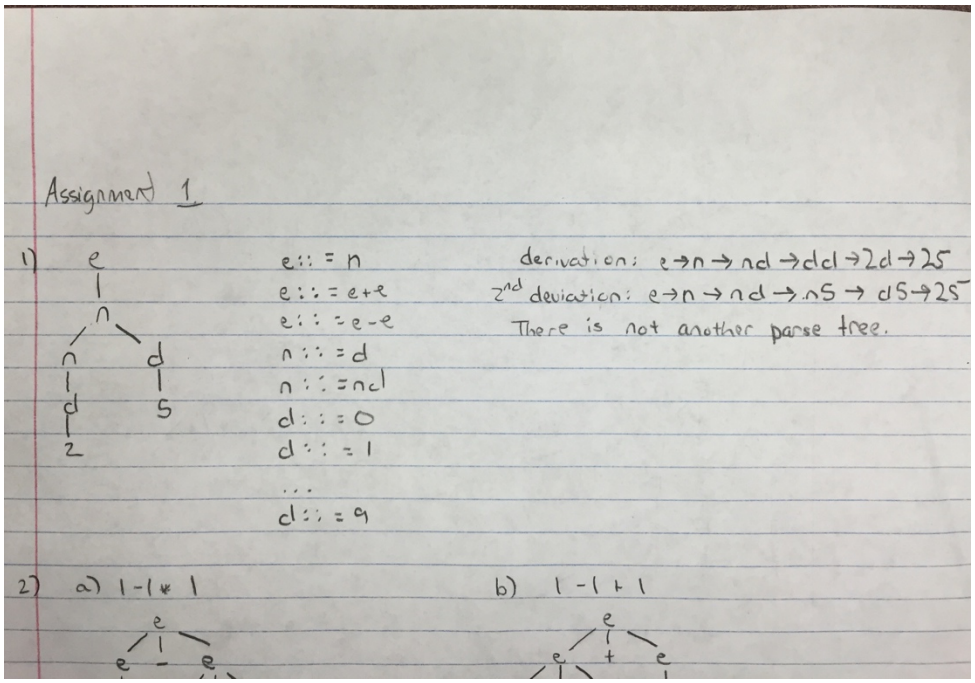
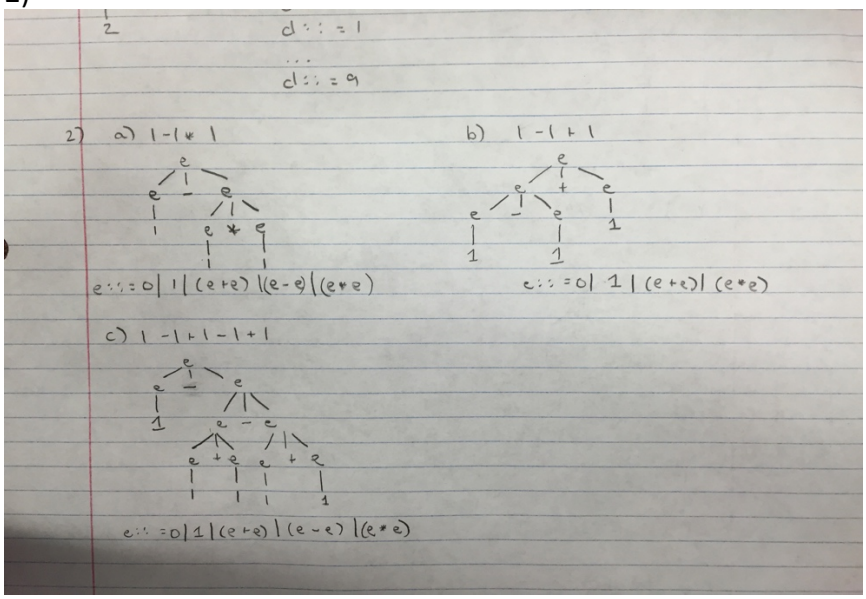
Brandon Cao
CIS 425
Spring 16'

Assignment 1

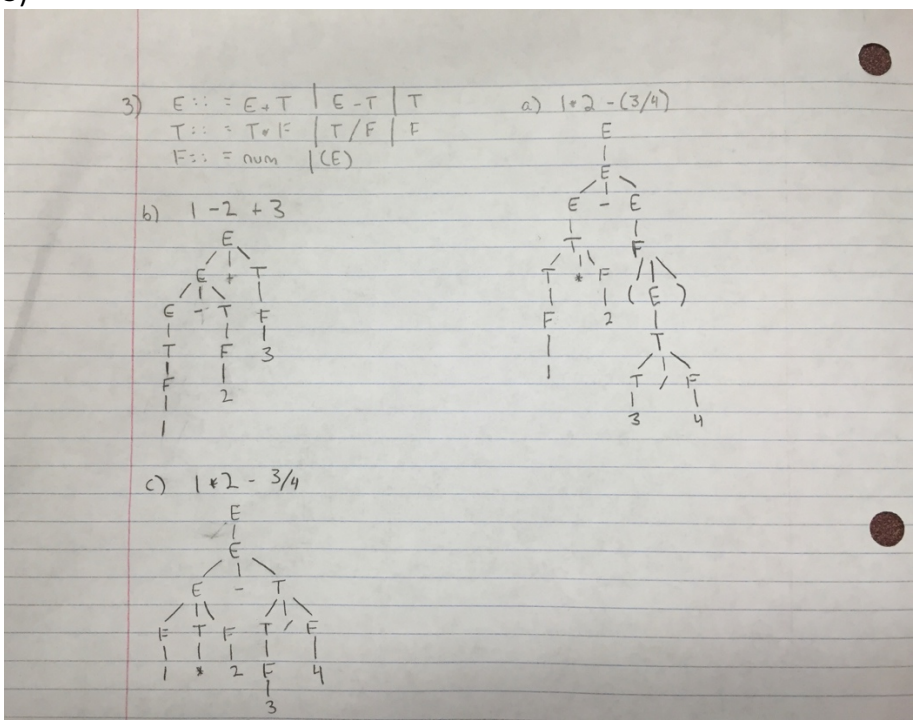
1)



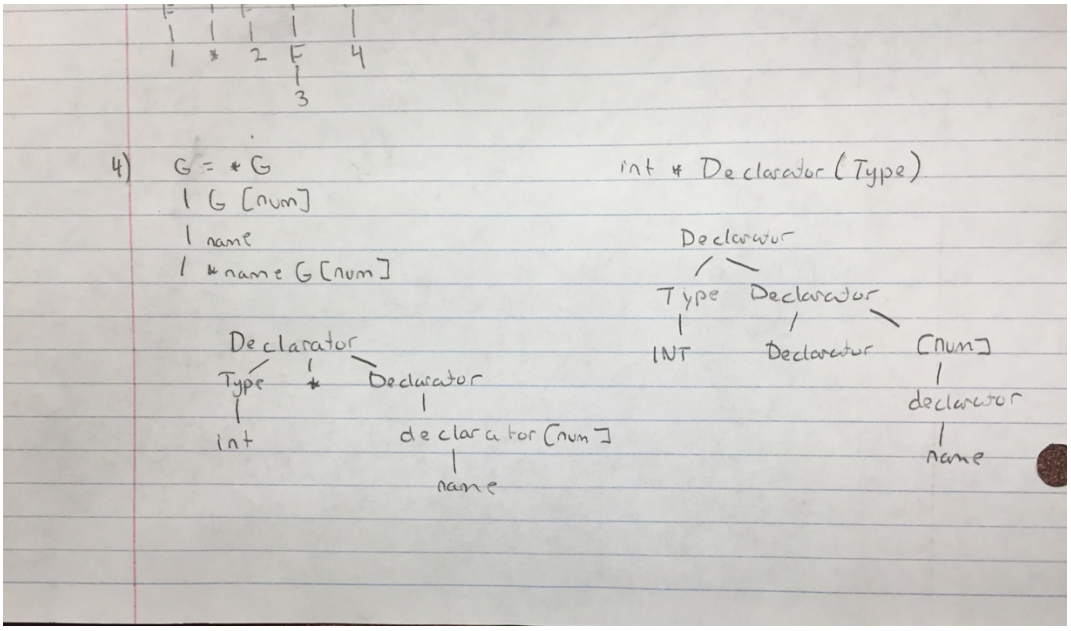
2)



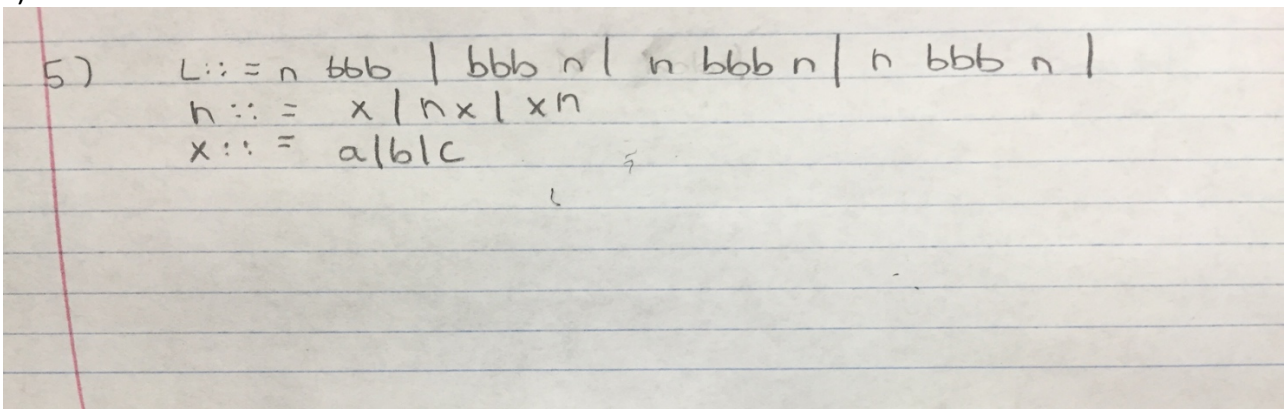
3)


3) E ::= E + T | E - T | T
T ::= T * F | T / F | F
F ::= num | (E)
a) 1 * 2 - (3/4)
b) 1 - 2 + 3
c) 1 * 2 - 3/4

4)


4) G = * G
| G [num]
| name
| * name G [num]
int * Declarator (Type)
Declarator
Type
Declarator
INT
Declarator
[num]
declarator
name
Declarator
Type
*
Declarator
int
declarator [num]
name

5)



6)

e: = n | x | x := e | e + e

a)

< x + y, σ> →
< 2 + y , σ> →
< 2+3 , σ > →
< 5 , σ >

b)

< x := x + 3, σ > →
< x := 1 + 3, σ > →
< x := 4,σ > →
< 4, σ (x:=4)> c) <(x:= 3)+ x , σ> →
< 3+x, σ (x=3) > →
< 3+3,σ(x:=3) > →
< 6,σ (x:=3) >

d)

< x := (x := x+3) + (x := x+5),σ > →
< x :=(x :=1+3) + (x :=x+5),σ > →
< x :=(x:=4) + (x:=x+5),σ > →
< x := 4 + (x := x+5),σ (x=4)> →
< (x:=4 + (x:=4+5),σ(x:= 4)> →
< x := 4 + (x := 9),σ(x := 4)> →
< x:=4 + 9,σ(x := 9) > →
< x := 13, σ (x := 9) > →
< 13, σ (x := 13)>